

Swains., but differing from that species in having the whole of the body and wings of a fine oil-green, instead of bluish-green, and in having the velvet-black marks near the tips of the wing-coverts and scapularies more conspicuous than in that species; the lower parts of the back and upper tail-coverts of a lovely purple, changing into green on their edges and tips, in lieu of dark bronzy-purple; the band across the abdomen dark coppery-brown.

Total length,  $19\frac{1}{2}$  inches; bill,  $1\frac{1}{4}$ ; wing, 8; tail, 14; tarsi,  $1\frac{3}{4}$ .

*Hab.* W. Africa: precise locality unknown.

The Secretary read the following—

NOTICE OF A NEW SPECIES OF TRICHOTROPIS, FROM THE COLLECTION OF HUGH CUMING, ESQ. BY ARTHUR ADAMS, F.L.S., ETC.

TRICHOTROPIS GOULDII, A. Adams.

*T. testa ovato-fusiformi, vix rimata, alba, tenui; spira elata; anfractibus septem convexis, liris elevatis, spiralibus et lamellis tenuibus longitudinalibus concinne cancellatis, interstitiis transversim striatis; apertura ovali, antice producta, canali obsoleta; labio lævi, rotundato, antice subreflexo; labro margine simplici, acuto.*

Long.  $1\frac{1}{2}$  poll.

*Hab.* Chiriqui, Veragua (*Mr. T. Bridges*). Mus. Cuming.

I have much pleasure in naming this elegant addition to the genus *Trichotropis* after the distinguished American conchologist Dr. Gould. In a recent state the shell is probably covered with a thin light-brown epidermis. It differs from the typical genus in the canal of the aperture being almost obsolete.

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December 9, 1856.

Dr. Gray, F.R.S., in the Chair.

Professor Owen read a paper entitled "Osteological Contributions to the Natural History of the Chimpanzees and Orangs (*Troglodytes, Pithecus*), No. VI.," which will be published in the Transactions of the Society.

The following papers were also read:—

1. DESCRIPTION OF A NEW SPECIES OF CHELODINA FROM AUSTRALIA. BY DR. J. E. GRAY, F.R.S., ETC.

(Reptilia, Pl. XII.)

Mr. Stutchbury, who has recently returned from Australia, No. CCCXXIV.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.

brought with him a series of animals which he collected during his geological researches.

In examining this collection with the intention of selecting those specimens which will be interesting additions to the very rich collection of Australian animals in the British Museum (including almost all the species described by Mr. Gould and other recent writers on the fauna of that continent), I was pleased to discover what appears to be a very distinct species of the Australian genus of Long-necked freshwater Tortoises (*Chelodina*).

To the description of this species I have added a short note on the peculiarities of two other species.

*CHELODINA EXPANSA*, n. s. (Pl. XII. adult and young.)

Shell oblong, rather depressed, broader behind, brown; plates thin, with short, narrow inosculating grooves; the margins flattened, expanded; the side of the back regularly convex; the lateral marginal plates rather broad, not revolute. The sternum flat, bluntly keeled on the sides, yellow. Head, neck and limbs dark olive above; chin, throat, and under side of the limbs whitish.

Shell, length 11, breadth 8 inches. Neck 8 inches long.

The young shell is like the adult, but the lateral margins are slightly revolute on the edges, though the plates are broad like the adult. The under side of the margin yellow, with a triangular black spot on the front edge of each shield; the dorsal shield thin, with three distant concentric grooves, with a rather rugose, moderate-sized areola; the areola of the costal plate subcentral; the areola of the first vertebral plate is subcentral, of the second, third, fourth and fifth vertebral plate it is on the middle of the hinder margin; the areola of the marginal plate is on the hinder outer margin. The front vertebral shield is large, and as broad as long; the others are much broader than long, the third being the shortest.

This species differs from *Chelodina longicollis*, *C. oblonga* and *C. Colliei*, in the generally expanded form, and especially in the breadth and non-revolution of the lateral margin, and in the side of the sternum not being so sharply keeled as in the two latter species.

It differs from *Chelodina sulcifera* in the membranous character of the shields, and also in the sternum being narrow in front, like that of *C. oblonga* and *C. Colliei*, and not expanded and broader, as in *C. longicollis* and *C. sulcifera*.

*CHELODINA LONGICOLLIS*.

A fine shell of the adult animal of this species, larger than any I have hitherto received, was in the collection.

The shell is rather convex and swollen on the sides, with a deep, broad, rounded concavity along the centre of the second, third and fourth vertebral plate, about two-thirds the width of the plates. The black sutural lines on the sternum are narrow and uniform.

Length of the shell  $8\frac{1}{2}$ ; width 6 inches.

## CHELYMYS MACQUARIA.

Two adult specimens of this kind were also in the series. They are both much darker than the two specimens in the British Museum Collection. They are also peculiar for having a very distinct, deep, narrow, interrupted groove along the vertebral line, deepest and widest on the fourth vertebral plate. The discal shields are also marked with rather deep distinct radiating grooves, which are evidently indentations in the bones of the animal, only covered by the very thin skin-like shields.

Shell, length 11, breadth 8 inches.

## 2. ON SOME FISH FROM ASIA MINOR AND PALESTINE. BY SIR JOHN RICHARDSON, C.B., F.R.S. L. &amp; ED. ETC.

Through the kindness of Dr. Gray of the British Museum, I have been permitted to examine a small collection of Fish made by H. Poole, Esq., in Palestine and Asia Minor. Though they do not present to the ichthyologist any novel generic forms, they are interesting on account of the localities in which they were found.

## CYPRINODON HAMMONIS, Cuv. et Val. xviii. 169.

This small fish was taken in a marshy spot, on the immediate beach of the Dead Sea, at Usdum, the supposed site of Sodom. The marsh, which contained some very small puddles of salt-water in which the fish were swimming, and from whence they were scooped out with ease by the hands, is fed by a saline spring which issues a little higher up, and is so little above the level of the sea, that Mr. Poole believed that the fish were washed into the pools by the waves. The opinion that the exhalations of the Dead Sea are immediately fatal to animal life, and that not even a bird can fly over it, has long been exploded. One of Mr. Poole's companions bathed in it daily with impunity, and even fancied that in diving he had discovered the remains of a ruined city under its waters, opposite to Usdum. Mr. Poole also observed ducks diving in it, and concluded, justly we think, that they must have found something edible to induce them to repeat that act, which they did frequently.

Lieut. Lynch of the U. S. Navy examined the water of the Dead Sea (Exp. to Jordan, &c. p. 377) with a powerful microscope, and found that it contained no animalculæ and no vestige of animal matter. Its specific gravity was 1.13, compared with distilled water as 1.0, while water of the Atlantic from lat. 25° N. and 52° W. longitude was 1.02. Another examination of the water of the Dead Sea, quoted on the last page of Lieut. Lynch's book, gives its specific gravity as 1.227 at temp. 60°, and the solid saline matter as 267 in 1000. Specimens of the water taken up by Mr. Poole have been deposited at the Geological Society, together with examples of the water in which the fish were found, and of the salt spring which fed the marsh.

With respect to the *Cyprinodonts*, several of the species inhabit salt and fresh waters indifferently, the *C. Hammonis* being one of the number. It was originally discovered by Ehrenberg in the springs of the Oasis of Jupiter Ammon, and subsequently in great plenty in other districts of Egypt and Syria. M. Eloy found it in the waters of Damascus, and Rüppell states that it is an inhabitant of all parts of the Red Sea, and also of the fresh-water springs at Tor, which have a temperature of  $26\frac{1}{2}^{\circ}$  of Reaumur or  $91^{\circ}.6$  of Fahr. This is also the temperature of one of the hot springs of Cannea in Ceylon, inhabited by the *Ambassis thermalis*. M. Renaud, on sending examples of this *Ambassis* to Cuvier, stated that the heat of the spring was  $115^{\circ}$  Fahr.; but there is reason to infer, either that his thermometer was incorrect, or that he took the temperature of the feeding spring only.

When Dr. Davy visited the springs in October 1817, the hottest well raised the thermometer to  $107^{\circ}$ , but he was told that the heat fluctuated, and had been observed as high as  $110^{\circ}$  F. There are in all seven wells, their temperatures being various, and that of one of them as low as  $86^{\circ}$ . In one only, in which the thermometer stood at  $91^{\circ}$ , did he observe fish. He thought it probable that all the wells were supplied with water from the same source (Davy's Travels in Ceylon, p. 44).

In an excursion from the south side of the Sea of Marmora to the Asiatic Olympus, Mr. Poole obtained several Cyprinoids and some Gobies chiefly from Lake Apollonia or Apollonitis near Broussa, and from the River Gemlek that falls into the Sinus Cianus. He also caught some Trout on the summit of Olympus itself. The specimens are unfortunately so much decayed that their original forms cannot be ascertained with sufficient precision, but they have much resemblance to the common *Salmo fario* of Linnæus, and like it have two longitudinal rows of teeth on the vomer, without a cluster on the front of that bone. The Cyprinoids and Gobies are in good condition.

#### CYPRINUS BITHYNICUS, Richardson.

The *Cyprini* resemble one another so closely, that it is matter of extreme difficulty to determine the species when unaided by correctly labelled specimens. One of Mr. Poole's fish, caught in Lake Apollonitis, has the four minute barbels of *Cyprinus carpio*, but differs from that typical form in the great compression of its body, while it does not agree so perfectly with *C. elatus*, *hungaricus*, *Nordmanni*, and other species with deep bodies, described and figured in the 'Histoire des Poissons,' as to be referable with confidence to any of them. In general form, the origin of the barbels, position of the fins, and numbers of their rays, as well as in the outline of the preorbital and rest of the suborbital scale bones, it corresponds more closely with *C. flavipinnis* than with any other member of this group noticed in that work; but as *flavipinnis* belongs to the Indian Archipelago, a minute comparison of specimens is necessary to establish their identity. Hence I have designated Mr. Poole's fish by a



geographical appellation, and shall proceed to mention the proportions of its various external parts. Its rays are, D. 4|18; A. 3|45, the last one divided to the base; P. 19; V. 9; C. 19 $\frac{5}{4}$ .

Head a very little less than a fourth of the total length, measured to the tips of the caudal lobes, or a third of the length measured to near the end of the scales on the base of that fin. Height of the body greatest at the front of the dorsal, and equal to a third of the length measured to the tips of the central caudal rays, and consequently sensibly exceeding the length of the head. The greatest thickness of the fish is in the temporal region at the upper anterior angle of the operculum, and the length of the transverse diameter at that place is contained two and a half times in the height of the body; but posterior to the head, the thickness nowhere exceeds a third of the height. The body thins off from the lateral line to the acute edge of the back, and the sides below are also flattened in, but the edge of the belly is flat to the width of the transverse insertion of the ventrals, or about equal to the diameter of the eye.

In profile the fish resembles, as we have said, *C. flavipinnis*, as represented by pl. 457 of the 'Histoire des Poissons,' but the scales are probably smaller, there being thirty-seven in our fish on the lateral line, which runs perfectly straight at mid-height throughout. Snout obtuse. Barbels like those of the species just referred to, but more slender and considerably shorter. Eyes close to the profile, about a diameter and a half of the orbit apart transversely, one diameter from the end of the snout, and one and three-quarters anterior to the gill-opening; the diameter being to the length of the head as 1 : 3.75. Length of the dorsal equal to the vertical distance between the upper surface of the ventrals and the summit of the back. The first ray of the fin stands midway between the end of the snout and the base of the caudal; the ventrals being attached immediately beneath the second soft ray. The fourth stiff ray is as usual robust and denticulated posteriorly, while the three shorter, graduated, anterior stiff rays are incumbent on its base. The third anal ray is similar to the fourth dorsal one, and stands directly under the last two branching rays of the dorsal.

*Teeth.*—The lower pharyngeal bone is on the whole crescentic, but of irregular form. With its fellow it embraces the lower part of the gullet in nearly a half-circle. On its interior edge there is a row of about twelve small, acutely subulate teeth. At its middle there are three larger obtuse teeth, which stand one before the other in an antero-posterior (or dermo-central) direction, and are contiguous or incumbent on each other. The most interior one is obtusely conical, with a minute central cusp: the next, which is slightly the largest of the three, is worn on the exterior side; and the outer one is worn on both sides, but still blunt on the summit: besides these three there are two much smaller and more chisel-shaped ones, abreast of the second of the larger ones, and on its mesial side. There are thus five molar teeth on each lower pharyngeal bone, and a row of acicular or subulate tooth-like rakers on its inner border.

## LEUCISCUS APOLLONITIS, Richardson.

The difficulty of grouping and describing the numerous species of this genus is acknowledged by all who have made the attempt. M. Valenciennes has shown that the labours of Agassiz, Bonaparte and other first-rate ichthyologists on the *Leucisci* have been by no means successful, nor has he himself been more fortunate in his endeavours; the small groups of species described in the 'Histoire des Poissons' being far from sufficiently precise to do away with the necessity of reviewing almost the whole genus before any member of it brought from a new locality can be rightly placed. The entire question of geographical distribution rests on the correct recognition of species; and a great advance in ichthyological science will be made, when the Cyprinoids of Asiatic Turkey, Persia, and Affghanistan shall be collected and described, so as to complete the missing links between the European and Indian forms. Enlightened travellers, therefore, like Mr. Poole, who bring home specimens of freshwater fishes from these countries, merit a grateful commendation from a Natural History Society. The specimen that we have now particularly to notice has a strong resemblance to the English Red-eye or Rudd, the Rotengle of the French, and the *Leuciscus erythrophthalmus* of Cuvier, which is the type of the subgenus *Scardinus* of Bonaparte. In this group the maudible ascends obliquely in front of the upper jaw, so that when the mouth is shut it forms the most anterior point of the fish. It happens that Mr. Poole's specimen is exactly of the same size with the figure of the Rudd in Mr. Yarrell's beautiful work, so that an exact comparison can be made between them, and the most striking difference is that the Rudd has a slightly greater height of body. The length of the head, the position of the dorsal fin, the decurvature of the lateral line, and the numbers of rays in the fins, are the same in both. The ventrals, however, are a little further forward in *L. Apollonitis*, so that the tips of the pectorals overlap them a little, and the scales are a trifle smaller, numbering two more on the lateral line. In the Asiatic fish, moreover, the profile from the point of the snout to the dorsal is less arched, being nearly straight; and the number of the pharyngeal teeth being different in the two species, we obtain a precise distinctive mark. Those of *Apollonitis* number five in the inferior or exterior row, all denticulated within and hooked at the point; while the three forming the interior row are very short, and are likewise denticulated on their interior sides. *L. erythrophthalmus* has only four teeth in the inferior row.

As in most *Leucisci* the second dorsal ray is unbranched and tapering, and the first, which is shorter, is applied closely to its base without the intervention of membrane. In this species the second ray is the tallest in the fin, and it is perfectly flexible, without any of that stiffness which is characteristic of Agassiz' genus *Rhodeus*, in which moreover the pharyngeal teeth are chisel-shaped. The first ray of the dorsal stands on the highest point of the back, and exactly midway between the tip of the snout and the extremities of the

middle rays of the caudal ; while the middle of the dorsal is in the middle of the total length measured to the points of the caudal rays. The insertion of the ventrals again is midway between the point of the snout and the base of the caudal.

*Rays*:—Br. 3-3 ; D. 10 ; A. 13, last ray deeply divided ; V. 9 ; C.  $19\frac{5}{8}$  ; P. 15 or 16.

Body much compressed, thinning off rapidly towards the belly : its greatest thickness is considerably above the middle, and is equal to between a third and a fourth of its utmost height. Lateral line traced along the lower third of the height, parallel to the curve of the ventral edge, and consequently very concave upwards. It is composed of forty-two scales. Under the front of the dorsal, where the body is highest, there are seven rows of scales above the row which forms the lateral line and four below, or twelve in all. The scales are dotted with black on the edges, and traversed by about four radiating lines on the exposed disk and two or three shorter ones on the covered base, all issuing from the same point. Head small, its length being contained four times and a half in the total length of the fish, measured to the tips of the caudal lobes, and being consequently perceptibly less than the height of the fish. Its breadth between the eyes is a very little in excess of the diameter of the eye, and is greater than the thickness of the body. Preorbital scale bone nearly rectangular, with the corners rounded off, a little longer than high, and traversed by an unbranched muco-duct, which is continuous with the muciferous tube of the other suborbitals : the second of these bones is narrower than the third one.

Mandible ascending and shutting against the front of the upper jaw. Its joint is directly beneath the anterior curve of the orbit. The eye is nearer to the tip of the snout than to the gill-opening, and its diameter rather exceeds a third of the length of the head. First ray of the dorsal standing midway between the tip of the snout and the extremity of the middle caudal ray ; while the middle of the fin is equidistant from the tip of the snout and the distal points of the caudal lobes. Tips of the pectorals slightly overlapping the base of the ventrals, which lies midway between the end of the snout and the base of the caudal. The greatest height of body is at the front of the dorsal, and rather exceeds one-fourth of the entire length of the fish.

M. Valenciennes remarks that descriptions, even when aided by good figures, do not suffice to discriminate the nearly resembling species of *Leuciscus* ; hence this or any other proposed new species cannot be considered as properly established until it has been compared with authentic specimens of the known forms.

#### LEUCISCUS CII (Richardson).

This *Leuciscus* was caught by Mr. Poole in the River Gemlek, anciently named Cius, which falls into the Propontis near the promontory of Posidium. Like the preceding one it belongs to the group of species which have the dorsal placed over the space between the ventrals and anal, but in this instance considerably nearer the

former. Its pharyngeal teeth are in two rows, viz. five inferior taller ones, and two interior shorter ones, all incurved at the tips, and some of them distinctly denticulated on the inner edge, others only absolutely so.

*Rays*:—D. 10 ; A. 11, the last one deeply divided, and the front one short and incumbent ; V. 9 ; P. 18 ; C. 19.

In general form this fish resembles the *Leuciscus Baldneri* more nearly than it does any of the other species figured in the 'Histoire des Poissons,' but the head is a little longer, and the snout does not bulge out at the nostrils ; the last ray of the dorsal also stands a little before the anus, and the anal does not occupy so much space as in *L. Baldneri*. Of the figures given by Yarrell, it has most likeness to the Graining or *L. Lancastriensis*.

Length of the head contained four times in the length of the fish up to the base of the caudal, or four and a half times in the length when that fin is included. The form of the head is conical. The eye approaches the upper profile, and its diameter measures about a fourth of the length of the head ; it is situated a little more than a diameter from the tip of the snout, and nearly two diameters from the extreme edge of the gill-cover. Preorbital subtriangular, with its corners irregularly rounded off, and its oral border traversed by a muciferous tube having short lateral branches. The remainder of the suborbital chain unites imperceptibly with the silvery integument of the cheek, but is indicated by its muciferous tube skirting the under curve of the orbit. When the head is allowed to dry, however, the second and third suborbitals are perceived to be very narrow, and the fourth one much broader.

The height of the body is about one-fifth of the total length to the tips of the caudal, or, more exactly, a fourth of the length up to the end of the scales on that fin. It is a very little less than the length of the head. The thickness of the fish is greatest at the nape, which is much rounded, and is equal to half the greatest height of the body. The back is more obtuse than the belly. Lateral line decurved, running more than a third of the height from the rim of the belly, and traced on forty-seven scales. There are seven rows above the lateral line at the ventrals, and four below, making with the one contributing to form the line, twelve in all. Of these, two scales are below the upper ventral ray. There are about seventeen short lines on the base of a scale, and twelve or fourteen longer ones on the exposed disk, all radiating from one point. The concentric lines of structure are crowded, but very evident.

#### APPENDIX.

Museum of Practical Geology,  
Jermyn Street,  
November 27th, 1856.

MY DEAR SIR RODERICK,

I hasten to give you the results obtained in the examination of waters which were forwarded to me by Mr. Reeks :—





1. *Cyrtodreila Ghiesbreghtii* Pfr 2. *C. turris* Pfr 3. *C. clava* Pfr  
 4. *Felix meta* Pfr, and var. 5. *Felix meta* Pfr, and var. 6. *H. lombi* Pfr, and var.  
 7. *H. lombi* Pfr, and var. 8. *H. Grevillei* Pfr



1. Brine spring near Usdum with fish. Temp. 90° F. Spec. grav. 1·035.

2. North End near Jordan. Temp. 83° F. Spec. grav. 1·196.

3. Dead Sea, Usdum, South End. Temp. 83° F. Spec. grav. 1·204.

4. El Lisan (Peninsula), North End. Spec. grav. 1·200.

No. 1 smelt strongly of sulphuretted hydrogen, and contained a good deal of suspended matters. No. 2 pretty clear; less sulphuretted hydrogen. Nos. 3 and 4 clear, and no sulphuretted hydrogen.

I remain,

My dear Sir Roderick,

Yours very sincerely,

A. W. HOFMAN.

Sir Roderick Murchison,

§c. §c.

Calculated evaporation from the area of the Dead Sea at temp. 84° F. (58·6 dew-point) 1,500,000,000 gallons, or 6,500,000 tons. Assumed area 320 square miles (H. Poole).

3. DESCRIPTIONS OF NINETEEN NEW SPECIES OF LAND-SHELLS, FROM MR. H. CUMING'S COLLECTION, COLLECTED BY M. GHIESBREGHT AT CHIAPA, MEXICO. BY DR. L. PFEIFFER.

(Mollusca, Pl. XXXVI.)

1. *SIMPULOPSIS CHIAPENSIS*, Pfr. *S. testa depresso globosa, tenuissima, confertim striata, nitida, pellucida, cornea; spira minuta, parum prominula; sutura canaliculata; anfr. 2½ convexis, ultimo magno; columella tenui, arcuata; apertura diagonali, lunato-circulari; perist. simplice, recto, margine dextro superne subrecedente.*

Diam. maj.  $8\frac{1}{2}$ , min.  $6\frac{1}{2}$ , alt.  $4\frac{1}{3}$  mill.

2. *HELIX HELICTOMPHALA*, Pfr. *H. testa umbilicata, depressa, solida, oblique costulata, nitidula, pallide lutescenti-cornea; spira vix elevata; anfr. 5½ convexiusculis, ultimo antice subdeflexo, supra medium subcarinato, basi inflato, circa umbilicum, ⅓ diametri fere æquantem, scalariformem subcompresso, antice constricto et scrobiculato; apertura diagonali, rotundato-lunari, dente linguæformi, sublibero parietis coarctata; perist. albo, angulatum reflexo, margine supero subhorizontali, dextro et basali acute unidentatis.*

Diam. maj. 12, min.  $10\frac{1}{3}$ , alt.  $5\frac{1}{3}$  mill.

3. *HELIX CHIAPENSIS*, Pfr. *H. testa umbilicata, depressa, solidula, striata, nitida, albido-cornea, ad suturam fusculo-fasciata; spira breviter conoidea; anfr. 5½ convexiusculis, ultimo antice deflexo, superne turgido, subtus constricto, basi*

*inflato; umbilico parvo, subregulari, pervio; apertura diagonali, magna, sinuato-lunari, dente parvulo, tenui, obliquo, libero parietis subcoarctata; perist. albo, breviter reflexo, marginibus conniventibus, supéro subascendente, dextro dente descendente et basali denticulo obsoleto munito.*

Diam. maj.  $10\frac{1}{2}$ , min. 9, alt. 6 mill.

4. SPIRAXIS EUPTYCTA, Pfr. *Sp. testa turrata, solidula, plicis compressis, superne distantibus, deorsum confertioribus sculpta, nitidula, cereo-albida; spira regulariter attenuata, acutiuscula; sutura plicis excurrentibus crenata; anfr. 9- $9\frac{1}{2}$  convexis, ultimo  $\frac{1}{4}$  longitudinis vix æquante, rotundato; lamina columellari leviter torta, subreflexa, non truncata; apertura vix obliqua, oblonga; perist. simplice, margine dextro antrorsum subarcuato.*

Long.  $9\frac{1}{2}$ , diam.  $2\frac{3}{4}$  mill.

5. SPIRAXIS DUBIA, Pfr. *Sp. testa turrato-oblonga, solidula, plicis confertis, validis, obtusis munita, nitidula, corneo-albida, strigis castaneis in medio anfr. ultimi evanescentibus irregulariter picta, subvaricosa; spira elongata, apice acuta; anfr. 9 convexiusculis, ultimo  $\frac{1}{3}$  longitudinis non attingente; lamina columellari tenui, torta, ad basin apertura subverticali, subrhombeam canalem formante; perist. simplice, marginibus callo tenui junctis, dextro antrorsum leviter arcuato, basi recedente.*

Long.  $9\frac{1}{2}$ , diam. fere  $4\frac{1}{2}$  mill.

6. SPIRAXIS BICONICA, Pfr. *Sp. testa subfusiformi, utrinque conico-attenuata, solidula, lævigata, nitida, pallide rubentiornea; spira conica, acutiuscula; sutura marginata; anfr. 7 vix convexiusculis, ultimo spiram paulo superante, basi valde attenuato; lamina columellari callosa, torta, non truncata; apertura subverticali, angustissima, acuminato-oblonga; perist. simplice, margine dextro valde antrorsum arcuato.*

Long.  $13\frac{1}{2}$ , diam. 6 mill.

7. SPIRAXIS CATENATA, Pfr. *Sp. testa subfusiformi-oblonga, solidula, nitida, irregulariter striatula, corneo-lutescente, fascia castanea suturali, alteraque maculatim interrupta supra medium anfr. ultimi ornata; spira conica, obtusula; anfr. 6 modice convexis, ultimo spira paulo longiore, basi subattenuato; lamina columellari callosa, torta, non truncata; apertura verticali, angusta, acuminata, sinuato-semiovali; perist. simplice, margine dextro superne sinuoso, tum antrorsum arcuato.*

Long. 11, diam. 4 mill.

8. SPIRAXIS OBLONGA, Pfr. *Sp. testa oblonga, solidula, lævigata, nitida, cornea; spira elongato-conica, apice obtusa; sutura levi, late marginata; anfr. 5 planis, ultimo spiram vix superante, basi minime attenuato; lamina columellari compressa, alte torta, basi non truncata; apertura verticali, an-*

*guste ovali, longe acuminata; perist. simplice, margine dextro leviter antrorsum arcuato.*

Long.  $9\frac{2}{3}$ , diam.  $4\frac{1}{2}$  mill.

9. SPIRAXIS PARVULA, Pfr. *Sp. testa subfusiformi-oblonga, tenui, lineis impressis irregulariter notata, nitida, pellucida, cornea, obsolete rufo-strigata; spira conica, acutiuscula; sutura rufo-marginata; anfr. 6 convexiusculis, ultimo  $\frac{4}{7}$  longitudinis formante, basi attenuato; lamina columellari subincrasata, torta, non truncata; apertura anguste semiovali, longe acuminata; perist. simplice, margine dextro valde antrorsum arcuato.*

Long. 8, diam. vix 4 mill.

10. ACHATINA CHIAPENSIS, Pfr. *A. testa cylindraceo-turrita, solidula, conferte plicato-striata, nitida, pellucida, cerea; spira gracili, apice obtusula; sutura subcrenulata marginata; anfr. 9-10 convexis, ultimo  $\frac{1}{3}$  longitudinis subæquante, basi rotundato; columella subcallosa, strictiuscula, basi oblique truncata; apertura subverticali, tetragono-ovali; perist. simplice, recto.*

Long. 16, diam.  $3\frac{1}{3}$  mill.

11. ACHATINA TRYPANODES, Pfr. *A. testa cylindraceo-turrita, solidula, conferte plicata, nitidula, subdiaphana, albido-cerea; spira subregulariter attenuata, obtusula; sutura subcrenulata; anfr. 12, superis perconvexis, sequentibus planioribus, ultimo  $\frac{1}{5}$  longitudinis vix æquante, basi rotundato; columella brevi, leviter arcuata, oblique truncata; apertura subobliqua, elliptico-ovali; perist. simplice, margine dextro leviter antrorsum arcuato.*

Long. 13, diam. 3 mill.

12. ACHATINA (OLEACINA) PULCHELLA, Pfr. *A. testa oblonga, tenuiuscula, sublevigata (sub lente arcuatim et irregulariter striatula), nitida, corneo-albida, obsolete luteo-strigata; spira convexo-conica, acutiuscula; sutura anguste marginata; anfr. 6 modice convexis, ultimo  $\frac{2}{3}$  longitudinis vix æquante, basi subattenuato; columella substricta, anguste truncata; apertura verticali, sinuato-semiovali, longe acuminata; perist. simplice, margine dextro antrorsum vix dilatato.*

Long.  $10\frac{1}{2}$ , diam.  $3\frac{3}{4}$  mill.

13. ACHATINA (OLEACINA) GHIESBREGHTI, Pfr. *A. testa fusiformi, tenera longitudinaliter conferte plicata, striis tenuissimis undique decussata, sub epidermide pallide fulva albida; spira concaviusculo-conica, apice obtusa; sutura crenulato-filomarginata; anfr. 7 convexiusculis, ultimo spiram paulo superante, superne turgido, basi valde attenuato; columella ad basin aperturae transverse truncata, prope basin plica obliqua*

*munita; apertura angusta, acuminato-semiovali; perist. simplicie, rufulo-limbato.*  
 Long. 52, diam. 19 mill.

14. *CYLINDRELLA GHIESBREGHTI*, Pfr. (Pl. XXXVI. f. 1.) *C. testa arcuato-rimata, cylindraceo-turrita, truncata, solida, nigro-fusca; spira sensim attenuata, torte truncata; anfr. superst. 10-11 vix convexiusculis, superis conferte striatis, inferioribus leviter flexuose plicatis, ultimo antice soluto, striato, dorso angulato, infra medium obtuse carinato; apertura obliqua, subangulato-ovali, basi subeffusa, intus plica valida, compressa columellæ coarctata; perist. continuo, flexuoso, albido, undique breviter reflexo.*

Long. 82, diam. 22 mill.

β. *Testa tenui, cinnamomea, anfr. superst. 13-16.*

15. *CYLINDRELLA TURRIS*, Pfr. (Pl. XXXVI. f. 2.) *C. testa profunde subangulato-rimata, cylindraceo-turrita, truncata, tenui, confertissime subarcuato-striata, diaphana, oleoso-micante, rufa vel fulvida; spira sursum valde attenuata, magis minusve truncata; anfr. superst. 18-24 subplanulatis, ultimo antice soluto, dorso et basi carinato, medio angulato; apertura parum obliqua, rhombeo-ovali, plica levi columellæ basi canaliculata; perist. continuo, albo, undique expanso et reflexiusculo.*

Long. 68-72, diam. 14 mill.

16. *CYLINDRELLA CLAVA*, Pfr. (Pl. XXXVI. f. 3.) *C. testa profunde arcuato-rimata, turricto-cylindracea, truncata, tenuiuscula, confertim arcuato-striata, diaphana, parum nitida, fulva; spira sursum parum attenuata, latiuscule truncata; anfr. superst. 16-21 modice convexis, ultimo breviter soluto, dorso et basi carinato, latere filocarinato; apertura rhombeo-ovali, plica levi profunda columellæ coarctata, basi canaliculata; perist. continuo, albo, undique expanso et reflexiusculo.*

Long. 42-57, diam. 9-10 mill.

17. *HELICINA CHIAPENSIS*, Pfr. *H. testa globoso-turbinata, tenui, striatula et sub lente magis minusve distincte malleata, rubello-cornea, obsolete saturatius fasciata; spira turbinata, acuta; anfr. 6 convexiusculis, ultimo spiram æquante, peripheria obsolete subangulato; columella brevi, antrorsum in denticulum desinente, superne callum crassiusculum, circumscriptum emittente; apertura obliqua, acuminato-subovali; perist. albo, late expanso, ad insertiones angustato.—Operc. tenue, nigro-purpurascens, nucleo pallido.*

Diam. maj. 12, min. 10, alt. 9 mill.

18. *HELICINA BREVILABRIS*, Pfr. *H. testa globoso-turbinata, solidula, striatula, striis spiralibus confertis sub lente decusata, parum nitida, fulvida vel lutescente, interdum fascia 1 rubra cincta; spira convexo-conica, acuta; anfr. 5 vix con-*

*vexiusculus, ultimo rotundato, spira brevior; columella leviter arcuata, basi subsimplice, callum emittente tenuem, diffusum; apertura obliqua, fere semicirculari; perist. undique brevissime expanso.*

Diam. maj. 7, min. 6, alt. 5 mill.

19. *HELICINA GHIESBREGHTI*, Pfr. *II. testa conoidea, solidula, acute carinata, striis incrementi et antrorsum descendentes sub lente decussatula, sulcisque spiralibus remotis sculpta, pallide lutea, ad suturam et carinam albo-fasciata; spira convexo-conoidea, submucronata; anfr. 5½ vix convexiusculus, ultimo utrinque convexiore; columella brevi, superne impressa, basi tuberculata, callum emittente nitidum, diffusum; apertura perobliqua, fere triangulari; perist. calloso, late expanso et reflexiusculo, ad carinam subrostrato.—Operc. solidulum, nigro-castaneum.*

Diam. maj. 19½, min. 16, alt. 10 mill.

4. DESCRIPTIONS OF EIGHTEEN NEW SPECIES OF LAND-SHELLS COLLECTED ON THE ADMIRALTY ISLANDS, FROM THE COLLECTION OF MR. H. CUMING. BY DR. L. PFEIFFER.

(Mollusca, Pl. XXXVI.)

1. *HELIX META*, Pfr. (Pl. XXXVI. f. 4, 5.) *H. testa subobtecte perforata, coniformi, tenuiuscula, vix striatula, nitida, coloribus varia; spira turbinata, acutiuscula; anfr. 6-6½ convexiusculus, ultimo infra medium obtuse subangulato, basi modice convexo; apertura diagonali, rhombeo-ovali; perist. reflexiusculo, margine dextro subflexuoso, basali reflexo, cum columellari subverticali, triangulatim supra perforationem reflexo, angulum indistinctum formante.*

Diam. maj. 23, min. 20, alt. 26 mill.

a. *Unicolor vitrina, perist. albo.*

β. *Citrina, fascia suturali et vitta purpurascenti-nigra pone peristoma nigro-violaceum ornata.*

γ. *Nigra, fascia 1 suturali pallida ornata, perist. nigro.*

2. *HELIX PLAGIOSTOMA*, Pfr. *H. testa oblique umbilicata, trochiformi, tenuiuscula, leviter striata, nitida, fulva; spira conica, acutiuscula; sutura submarginata; anfr. 6 convexiusculus, ultimo antice vix descendente, carinato, basi planiusculo; apertura perobliqua, subrhombea; perist. simplice, marginibus convergentibus, dextro late expanso, antrorsum arcuato, basali reflexo, cum columellari triangulatim dilatato, libero, umbilicum non claudente angulum obtusum formante.*

Diam. maj. 23½, min. 19, alt. 21 mill.

3. *HELIX MAJUSCULA*, Pfr. *H. testa umbilicata, depressa, suborbiculata, solidula, oblique striata et irregulariter malleata,*

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*nitida, purpurascenti-fusca; spira vix elevata, medio plana; anfr. 5½ parum convexis, lente accrescentibus, ultimo antice vix descendente, periphæria obtuse angulato, basi circa umbilicum infundibuliformem, magnum subcompresso; apertura diagonali, lunari, intus margaritacea; perist. calloso, albido, reflexiusculo, marginibus callo tenui junctis, basali perarcuato.*  
Diam. maj. 44, min. 39, alt. 16 mill.

4. *HELIX QUERCINA*, Pfr. *H. testa umbilicata, globoso-conoidea, solida, oblique striata et impresso-punctata, rufo-castanea; spira conoidea, acutiuscula; anfr. 5 modice convexis, ultimo rotundato, antice vix descendente, juxta umbilicum angustum leviter canaliculato; apertura fere diagonali, rotundato-lunari, intus cærulescenti-albida; perist. calloso, albo, brevissime reflexo, margine columellari triangulatim dilatato, libero.*  
Diam. maj. 36, min. 31, alt. 23 mill.

5. *HELIX HOMBRONI*, Pfr. *II. testa angustissime umbilicata, conoideo-subglobosa, tenuiuscula, oblique striata et pilis brevibus rigidis obsita, saturate castanea; spira breviter conoidea, acutiuscula; anfr. 5½ convexiusculis, lente accrescentibus, ultimo vix descendente, periphæria subangulato, basi inflato; apertura fere verticali, subauriformi-lunari, intus albida; perist. albo, marginibus remotis, supero brevi, subhorizontali, expanso, basali subflexuoso, breviter reflexo, ad umbilicum dilatato.*  
Diam. maj. 34, min. 29, alt. 18 mill.

This is probably the *H. Fanellei*, Hombr. & Jacq., figured in the *Voy. au Pôle Sud*, Atl. pl. 4. f. 15-18, but the name has been preoccupied by Le Guillon, 1842.

6. *HELIX LOMBEI*, Pfr. (Pl. XXXVI. f. 6, 7.) *H. testa imperforata, depresso-turbinata, tenuiuscula, striatula et striis levissimis antrorsum descendentibus decussatula, albida, fasciis 2 latis fulvo-fuscis, maculisque variis nigricantibus notata; spira conoidea, acutiuscula; anfr. 5 convexis, ultimo depresso-rotundato, antice descendente, periphæria subangulato (angulo antice evanescente); columella intrante, declivi, lata, excavata, alba; apertura perobliqua, lunato-ovali; perist. albo, marginibus conniventibus, dextro late expanso, basali lato, plano.*  
Diam. maj. 31, min. 24, alt. 17 mill.

β. *Lutescens, nigro late bifasciata.*

γ. *Albida, strigis obliquis diaphano-griseis picta.*

7. *HELIX FLEXILABRIS*, Pfr. *H. testa imperforata, turbinata, solidula, striolis obliquis et levissimis antrorsum descendentibus subgranulata, fulvido-albida, fasciis nigro-castaneis latis vel angustis ornata; spira turbinata, obtusula; anfr. 5½ convexiusculis, ultimo antice descendente, periphæria obsoletissime subangulato; columella intrante, compressa, subarcuato-declivi; apertura perobliqua, lunato-elliptica; perist. late expanso,*



*marginibus conniventibus, dextro flexuoso, reflexiusculo, columellari sursum adnato.*

Diam. maj. 27, min.  $21\frac{1}{2}$ , alt. 23 mill.

Nearly allied to *H. coniformis*, Fér., from which it differs by its whorls being less convex, the aperture elliptically produced, and the peristome.

*Bol. 1958  
retractif*  
8. *HELIX PHTHISICA*, Pfr. *H. testa imperforata, trochiformi, solidula, striatula et rugis distinctis subdistantibus, antrorsum descendentibus sculpta, opaca, sordide alba; spira regulariter conica, acutiuscula; anfr. 5 planiusculis, ultimo vix descendente, paulo convexiore, subangulato, basi virenti-fulvo, radiato-striato, sulcis nonnullis spiralibus notato, nitido; columella declivi, compressa, strictiuscula, lata, subexcavata; apertura perobliqua, truncato-elliptica; perist. subincrassato, marginibus vix convergentibus, dextro breviter reflexo, antrorsum arcuato, basali lato, patente.*

Diam. maj. 23, min. 18, alt. 20 mill.

This shell differs from *H. vexillaris*, Pfr., by its solid structure, the spire being highly conical, the distant folds, the peristome, &c.

9. *HELIX XIPHIAS*, Pfr. *H. testa umbilicata, depressissima, tenuiuscula, oblique striata, albido-cornea, fasciis 4 angustis castaneis, medianis 2 carinæ acutæ, albæ contiguis, ornata; spira vix elevata vel subimmersa; sutura carina marginata; anfr. 5 convexiusculis, lente accrescentibus, ultimo non descendente; umbilico  $\frac{1}{4}$  diametri æquante; apertura perobliqua, angulato-lunari; perist. simplice, recto, marginibus subconvergentibus, dextro antrorsum arcuato, columellari subincrassato, basi nodulum callosum gerente.*

Diam. maj. 18, min.  $15\frac{1}{2}$ , alt.  $4\frac{1}{2}$ –5 mill.

β. *Paulo minor, fusca, fasciis obsoletis.*

To be compared with *H. entomostoma*, Jacq. Voy. Pôle Sud, Atl. pl. 7. f. 22–25.

10. *HELIX SEBACEA*, Pfr. *H. testa umbilicata, conoideo-semiglobosa, solidula, substriata, parum nitida, sebacea; spira convexo-conoidea, obtusa; sutura submarginata; anfr. 6 convexiusculis, lente accrescentibus, ultimo non descendente, obsolete angulato; umbilico aperto,  $\frac{1}{2}$  diametri vix æquante; apertura perobliqua, lunato-ovali; perist. subsimplice, marginibus convergentibus, dextro recto, antrorsum arcuato, basali subincrassato, ad umbilicum vix dilatato.*

Diam. maj.  $17\frac{1}{2}$ , min. 15, alt. 10 mill.

11. *H. EUSTOMA*, Pfr. *H. testa umbilicata, depressa, striatula et quincuncialiter punctata (pilosa?), aurantiaco-fusca; spira plana; anfr.  $4\frac{1}{2}$  convexis, ultimo alto, inflato, antice sensim descendente et rufescente, basi circa umbilicum infundibuli-*

*formem subangulato; apertura obliqua, elegantissime rotundato-lunari; perist. subincrassato, undique breviter reflexo, fusco-carneo, marginibus conniventibus, callo junctis, columellari vix dilatato.*

Diam. maj. 21, min.  $17\frac{1}{2}$ , alt. 11 mill.

12. *HELIX URSINA*, Pfr. *H. testa umbilicata, depressa, tenuiuscula, striatula et sublente punctulata, vix nitidula, saturate brunnea; spira brevissime conoidea, vertice subtili; anfr.  $5\frac{1}{2}$  modice convexis, ultimo majore, inflato, non descendente, circa umbilicum angustum, pervium subcompresso; apertura diagonali, lunato-ovali, intus lilaceo-margaritacea; perist. tenui, marginibus distantibus, dextro arcuato, breviter expanso, columellari declivi, reflexiusculo, ad umbilicum dilatato.*

Diam. maj. 20, min. 17, alt.  $10\frac{1}{2}$  mill.

13. *HELIX MURINA*, Pfr. *H. testa umbilicata, depresso turbinato-globosa, tenui, ruguloso-striata, granulato-subasperata, saturate rufa; spira breviter conoidea, obtusula; anfr. fere 5 convexis, ultimo inflato, antice vix descendente, circa umbilicum mediocrem, pervium subcompresso; apertura diagonali, lunato-rotundata, intus submargaritacea; perist. fusco-carneo, undique breviter expanso, marginibus subconvergentibus, columellari superne dilatato, fornicatim reflexo.*

Diam. maj. 15, min. 12, alt. 9 mill.

14. *PARTULA STRIGOSA*, Pfr. *P. testa perforata, oblongo-conica, solidula, obsoletissime decussatula, subopaca, albida, strigis irregularibus fulvis vel rufis ornata; spira conica, apice acuta; anfr. 5 subplanis, ultimo spira vix brevior, basi subattenuato, rotundato; columella superne subtorta, basi subnodosa; apertura vix obliqua, truncato-ovali, interdum callo nodiformi parietis coarctata; perist. albo, calloso, undique subæqualiter patente.*

Long. 17-18, diam. 9 mill.

15. *PARTULA MINUTA*, Pfr. *P. testa perforata, globoso-conica, tenui, striatula striisque spiralibus subgranulata, pallide fulvescente, diaphana; spira brevi, conica, obtusula; anfr. 4 convexis, ultimo globoso,  $\frac{3}{2}$  longitudinis formante; columella subsimplice, leviter recedente; apertura parum obliqua, ovali; perist. tenui, albo, marginibus approximatis, dextro superne perarcuato, expanso, columellari latiore, patente.*

Long.  $10\frac{1}{2}$ , diam. 7 mill.

16. *CYCLOSTOMA (LEPTOPOMA) HANLEYANUM*, Pfr. *C. testa vix perforata, globoso-turbinata, tenuiuscula, striis spiralibus confertissimis subundulatis, lirisque nonnullis levibus obtusis cincta, fulvida, flammis angulosis fuscis marmorata; spira turbinata, apice acutiusculo, nigricante; anfr. 5 convexis, ultimo inflato, circa perforationem subclausam pallide; aper-*

*tura obliqua, subangulato-circulari; perist. subduplice interno vix interrupto, adnato, externo patente, concentricè striatulo, latere sinistro dilatato, fornicatim reflexo.*—Operc. planum, fulvum.

Diam. maj. 12, min. 10, alt. 10 mill.

17. *HELICINA GRATIOSA*, Pfr. *H. testa subgloboso-turbinata, tenuiuscula, striatula, striolis spiralibus obsoletissime notata, nitida, pellucida, fusciscenti-rubra vel lutea; spira conoidea, acutiuscula; anfr. 5 convexiusculis, ultimo subcarinato, antice rotundato; columella subecedente, alba, callum emittente albidum; apertura obliqua, subtriangulato-semicirculari; perist. undique breviter expanso.*—Operc. tenue, solidum, curvum.

Diam. maj. 9, min.  $7\frac{1}{2}$ , alt. fere 6 mill.

18. *HELICINA SUAVIS*, Pfr. *H. testa turbinata, tenui, nitidissima, superne striatula striisque spiralibus conferte notata, rubella, albido-marmorata, vel lutea aut carnea, pallide rubro variegata; spira conoidea, acuta; anfr. fere 5 convexiusculis, ultimo compresse et acute carinato, basi convexiore; columella brevi, basi subdentata, callum emittente crassiusculum diffusum; apertura obliqua, subtriangulari; perist. albo, margine supero breviter expanso, basali reflexiusculo.*—Operc.?

Diam. maj.  $10\frac{1}{2}$ , min.  $8\frac{3}{4}$ , alt.  $6\frac{2}{3}$  mill.

Besides the described new species, there were in the same collection from the Admiralty Islands, *Helix Novæ Hiberniæ*, Quoy, *fringilla*, Pfr. (beautiful and large varieties), *migratoria*, Pfr., *Sachalensis*, Pfr., *motacilla*, Pfr., *Cleryi*, Recl., *helicinoïdes*, Jacq., *pyxis*, Hinds, *Grimardi*, Desh., *brevipila*, Pfr., *Pfeifferi*, Phil., &c.

## 5. DESCRIPTIONS OF THIRTY-THREE NEW SPECIES OF LAND-SHELLS, FROM THE COLLECTION OF H. CUMING, ESQ.

By DR. L. PFEIFFER.

(Mollusca, Pl. XXXVI.)

1. *HELIX GLORIOSA*, Pfr. *H. testa imperforata, depresso ovatu, crassa, ponderosa, oblique conferte plicato-striata lirisque crebris obtusis subregularibus cincta, fulvida, strigis singulis pallidis et saturatoribus notata; spira convexa, obtusa, nuda, sub lente granulata, apice subtilissimo; anfr.  $3\frac{1}{2}$  rapide accrescentibus, ultimo perinflato; apertura diagonali, lunato-ovali, intus rubella; perist. crassissimo, breviter expanso, marginibus callo crasso junctis, columellari adnato.*

Diam. maj. 64, min. 50, alt. 39 mill.

Hab. Madagascar.

2. *HELIX DUCTILIS*, Pfr. *H. testa umbilicata, discoidea, tenui,*  
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*sub lente confertim striatula, albido-hyalina; spira plana; anfr. fere 5 subplanis, sensim accrescentibus, ultimo non descendente, depresso, peripheria rotundato, basi vix convexiore; umbilico perspectivo,  $\frac{1}{4}$  diametri superante; apertura obliqua, late lunari; perist. simplice, recto, marginibus vix convergentibus, columellari brevi, verticali, cum basali subangulatim juncto.*

Diam. maj.  $6\frac{1}{2}$ , min.  $5\frac{1}{2}$ , alt. 2 mill.

*Hab.* Drayton Range, North Australia (Mr. Stutchbury).

3. **HELIX STUTCHBURYI**, Pfr. *H. testa sub obtecte perforata, turbinato-globosa, tenui, superne sub lente minute granulata, pallide fulva, ad suturam et supra medium rufo-fasciata; spira convexo-conoidea, obtusula; anfr. 5 convexiusculis, ultimo rotundato, antice vix descendente, basi lævigato; apertura diagonali, rotundato-lunari; perist. tenui, marginibus subconvergentibus, dextro vix expansiusculo, basali breviter reflexo, columellari fornicatim dilatato, umbilicum angustissimum fere tegente.*

Diam. maj.  $15\frac{1}{2}$ , min.  $13\frac{1}{2}$ , alt. 10 mill.

*Hab.* Drayton Range, North Australia (Mr. Stutchbury).

4. **HELIX DELTA**, Pfr. *H. testa sub obtecte perforata, trochiformi, tenuiuscula, striatula et foveolata, opaca, carneo-albida; spira regulariter conica, apice acuta; anfr. 6 planis, ultimo non descendente, subacute carinato, basi convexiusculo; apertura fere diagonali, angulato-lunari; perist. simplice, margine dextro recto, basali reflexiusculo, columellari supra perforationem dilatato, patente.*

Diam. maj. 8, min.  $7\frac{1}{2}$ , alt.  $6\frac{1}{2}$  mill.

*Hab.* Drayton Range, North Australia (Mr. Stutchbury).

5. **HELIX Pliculosa**, Pfr. *H. testa umbilicata, turbinato-globulosa, tenuiuscula, superne confertim plicosa, diaphana, parum nitida, rubello-cornea; spira conoidea, vertice subtili; anfr.  $4\frac{1}{2}$  convexiusculis, ultimo supra medium subangulato, antice rotundato, vix descendente, basi inflato, circa umbilicum angustum, pervium subcompresso; apertura obliqua, lunato-rotundata; perist. albido, marginibus subconviventibus, dextro expansiusculo, columellari sursum dilatato, cum basali angulum obtusum formante.*

Diam. maj. 16, min. 13, alt. 10 mill.

*Hab.* Drayton Range, North Australia (Mr. Stutchbury).

6. **HELIX CASTRENSIS**, Pfr. *H. testa imperforata, conoideo-semiglobosa, solida, rugoso-plicatula et irregulariter subgranulata, pallide fulvida, strigis fuscis crebris regulariter radiata; spira convexiusculo-conoidea, obtusula; anfr. 4 vix convexiusculis, ultimo medio subacute carinato, antice breviter descendente, inflato, basi pallidior; apertura perobliqua, subtriangulari-lunari; perist. albo, margine dextro arcuato, breviter reflexo, basali dilatato, adnato, introrsum dentibus 2 obtusis plicæformibus munito.*

Diam. maj. 25, min. 21, alt. 15 mill.

*Hab.* West Indies.

7. **HELIX LINDSTEDTI**, Pfr. *H. testa sinistrorsa, perforata, conoideo-lenticulari, carinata, tenui, diaphana, superne undulato-striata et minutissime granulata, parum nitida, rubello-lutescente; spira regulariter elevata, obtusa; sutura lineari; anfr. 6 planiusculis, sensim accrescentibus, ultimo non descendente, supra medium acute carinato, basi convexo, nitidissimo, non decussato, circa perforationem non apertam albido; apertura fere diagonali, securiformi; perist. simplice, recto, margine columellari in laminam brevem revolutam dilatato.*  
 Diam. maj.  $35\frac{1}{2}$ , min. 31, alt. 14 mill.  
*Hab.* Malacca (Rev. F. W. Lindstedt).
8. **HELIX BOURGUIGNATI**, Pfr. *H. testa umbilicata, globoso-depressa, tenui, minutissime malleato-striata, parum nitente, diaphana, carnea; spira breviter conoidea, vertice subtili, luteo; anfr. 6 convexiusculis, regulariter accrescentibus, ultimo rotundato, antice vix descendente; umbilico angusto, vix pervio; apertura obliqua, rotundato-lunari; perist. intus albolabiato, marginibus vix convergentibus, dextro recto, basali reflexiusculo, ad umbilicum dilatato, patulo.*  
 Diam. maj. 19, min. 16, alt. 11 mill.  
*Hab.* Crimea.
9. **HELIX ADELAIDÆ**, Pfr. *H. testa umbilicata, depressa, carinata, tenuiuscula, striata, alba, fascia fuscata supera ornata; spira vix elevata, vertice obtusiusculo, corneo; anfr. 4 convexiusculis, ultimo non descendente, supra peripheriam subacute carinato, basi inflato; umbilico perspectivo,  $\frac{1}{4}$  diametri fere æquante; apertura fere diagonali, lunato-rotundata, ad carinam vix angulata; perist. recto, intus levissime labiato, marginibus conniventibus, columellari subpatulo.*  
 Diam. maj. 6, min. 5, alt. fere 3 mill.  
*Hab.* Adelaide, Australia.
10. **HELIX CHIONODISCUS**, Pfr. *H. testa subobtectè umbilicata, conoideo-lentiformi, carinata, solida, rugoso-striatula, opaca, nivea; spira convexiusculo-conoidea, nucleo læviusculo, obtuso; anfr. 5 vix convexiusculis, ultimo antice breviter deflexo, infra suturam linearem turgidulo, periphèria magis minusve acute carinato, basi convexo; apertura diagonali, rhombeo-lunari; perist. subcalloso, marginibus subparallelis, dextro recto, basali perarcuato, reflexo, versus umbilicum sensim dilatato, lamina lata adnata illum fere claudente.*  
 Diam. maj. 26, min. 23, alt. 13 mill.  
*Hab.* Crimea.
11. **HELIX GREVILLEI**, Pfr. (Pl. XXXVI. fig. 8.) *H. testa imperforata, conica, solida, striatula et plicis validis oblique antorsum descendentibus, interdum malleato-interruptis munita, castanea, strigis sparsis nigricantibus notata; spira conoidea,*



*apice rosea, acutiuscula; anfr. 4½ convexiusculis, rapide accrescentibus, penultimo subtus albo-callosa, ultimo antice descendente, peripheria obtuse sed distincte angulato; apertura perobliqua, truncato-oblonga, intus pallide cærulescente; perist. nigro, expanso et reflexo, marginibus parallelis, callo nigro junctis, columellari dilatato, plano, adnato, dextrorsum subdentato, ad axin albido.*

Diam. maj. 49–58, min. 36–42, alt. 32–39 mill.

*Hab.* Ceylon (*Mr. Thwaites*).

12. *ENNEA INSIGNIS*, Pfr. *E. testa breviter rimata, ovato-oblonga, tenuissima, oblique confertim striata, striisque spiralibus versus basin evanescentibus decussatula, nitida, pellucida, cereo-hyalina; spira ovoidea, apice obtusa; sutura submarginata; anfr. 7 convexiusculis, penultimo supra aperturam subplanato, ultimo ¾ longitudinis formante, antice arcuatim ascendente, juxta rimam subcompressa; columella recedente, dentato-plicata; perist. tenui, albo, undique expanso, margine columellari dilatato, patente.*

Long. 37, diam. 20 mill.

*Hab.* Gaboon, Africa (*Mr. Auboy*).

13. *BULIMUS PALAVANENSIS*, Pfr. *B. testa imperforata, oblonga, solida, striatula, epidermide fusco-cinerea, castaneo varie strigata, sursum detrita munita; spira convexiusculo-conica, apice obtusula; anfr. 5–5½ modice convexis, ultimo spiram subæquante vel brevior; columella substricta, albida; apertura obliqua, truncato-ovali, intus griseo-cærulescente; perist. callosa, nigricante, breviter reflexo.*

Long. 48–49, diam. 27 mill.

*Hab.* Palawan (*Dr. Traill*).

14. *BULIMUS LIBROSUS*, Pfr. *B. testa imperforata, ovato-oblonga, solida, striatula, epidermide subhydrophana, libro-cinerea, fusca irregulariter strigata et ad suturam ocellata obducta; spira convexiusculo-conica, obtusa; anfr. 5½ planiusculis, ultimo spira vix brevior, epidermide decidua circa columellam pallidam, compressam, substrictam saturate castanea, nitida; apertura obliqua, ovali oblonga, intus cærulescente; perist. castaneo-nigro, subincrassato, revoluto, margine dextro leviter arcuato.*

Long. 40, diam. 21 mill.

*Hab.* Palawan (*Dr. Traill*).

15. *BULIMUS LINDSTEDTI*, Pfr. *B. testa sinistrorsa, imperforata, ovato-conica, solida, striatula, nitida, candida; spira elongato-conica, apice obtusula; anfr. 6½ convexiusculis, ultimo ¾ longitudinis subæquante, obsolete angulato, antice rotundato; columella subverticali, vix torta; apertura fere diagonali, subsemicirculari; perist. leviter incrassato, expanso, marginibus callo concolore junctis.*

Long. 39, diam. 17 mill.

*Hab.* Malacca (*Rev. F. W. Lindstedt*).



16. *BULIMUS PARALLELUS*, Pfr. *B. testa compressa umbilicata, fusiformi, tenuiuscula, striatula, fulva, epidermide albida subreticulata; spira elongato-conica, obtusa; anfr. 7 modice convexis, ultimo spira paulo brevior, basi compresso; columella superne leviter torto-plicata; apertura verticali, oblonga, lateribus parallelis, basi effusa, utrinque fusco-strigata; perist. tenui, albo, expanso, margine dextro supra medium impresso, columellari latiore, sulco arcuato ab anfractu contiguo separato.*  
 Long. 22, diam. 7 mill.  
*Hab.* St. Catherine's, Brazil.
17. *BULIMUS CATHARINÆ*, Pfr. *B. testa breviter rimata, subperforata, fusiformi, solidula, undique leviter punctato-rugulosa, albida, punctis corneis substrigatim conspersa; spira ventroso-turrata, apice acutiuscula; anfr. 8½ convexiusculis, ultimo ⅓ longitudinis vix attingente, basi crista valida, compressa et pone illam minore munito, antice interne et externe interrupte nigro-strigato; apertura obliqua, subseptemdentata; plica 1 lamellæformi in pariete, secunda subquadrangulari ad columellam, tertia obliqua in latere sinistro baseos effusa, 3 subæqualibus et 1 minuta in margine dextro; perist. albo, undique modice expanso.*  
 Long. 23-25, diam. 7½-8 mill.  
*Hab.* St. Catherine's, Brazil.
18. *BULIMUS SUGILLATUS*, Pfr. *B. testa anguste umbilicata, oblongo-turrata, tenui, irregulariter plicato-striata, cornea, strigis subpunctatis opacis albis, singulisque rufis notata; spira elongato-conica, acuta; sutura levissime crenulata; anfr. 9 convexis, ultimo ⅔ longitudinis subæquante, basi subcompresso; columella leviter et stricte recedente; apertura parum obliqua, oblonga; perist. simplice, margine dextro recto, columellari sursum dilatato, fornicatim reflexo.*  
 Long. 24, diam. 9½ mill.  
*Hab.* Bolivia.
19. *BULIMUS GAYI*, Pfr. *B. testa subobtecte umbilicata, conico-ovata, solidula, fusca, fasciis angustis varic ornata; spira conica, obtusa; anfr. 5 modice convexis, ultimo spiram paulo superante, basi rotundato; columella leviter arcuata; apertura parum obliqua, truncato-ovali, intus albida; perist. simplice, margine dextro recto, columellari per dilatato, umbilicum angustum fere tegente.*  
 Long. 27, diam. 16 mill.  
*Hab.* Bolivia.
20. *BULIMUS SABATIERI*, Pfr. *B. testa subperforata, ovato-oblonga, tenuiuscula, sublevigata, irregulariter striatula, strigis undulatis pallide lutescentibus et saturate brunneis alternantibus picta; spira conica, sursum pallidior, apice obtuso; anfr. 6 parum convexis, ultimo spira paulo brevior, infra medium obsolete angulato; columella stricta, violaceo-fusca; apertura parum*

*obliqua, anguste elliptica; perist. simplice, recto, margine columellari sursum dilatato, reflexo, subadnato.*

Long. 22, diam. 12 mill; ap. 11 mill. longa,  $5\frac{1}{2}$  lata.

*Hab.* Banks of the "Fleuve blanc," China? (*Mr. Sabatier*).

21. *BULIMUS DUTAILLYI*, Pfr. *B. testa subperforata, oblongo-turrita, tenui, confertim plicatula, nitida, albida, fasciis 6-7 interruptis spadiceis ornata; spira elongata, apice acuta; anfr. 7 convexiusculus, ultimo  $\frac{2}{3}$  longitudinis subæquante, basi attenuato; columella vix arcuata, subrecedente; apertura vix obliqua, elliptico-oblonga; perist. simplice, recto, margine columellari papyraceo, superne reflexo, subadnato.*

Long. 31, diam. 12 mill.; ap.  $13\frac{1}{2}$  mill. longa,  $6\frac{1}{2}$  lata.

*Hab.* Brazils (*Mr. Dutailly*).

22. *BULIMUS Pliculatus*, Pfr. *B. testa umbilicata, ovato-conica, tenuiuscula, plicis levibus, subvariciformibus sculpta, haud nitente, pallide grisea, strigis angustissimis albis et fuscis irregulariter picta; spira conica, acuta; anfr. 7 convexiusculus, ultimo spira paulo brevior, basi circa umbilicum mediocrem, rotundum subcompresso; columella substricta; apertura vix obliqua, elliptico-oblonga; perist. simplice, recto, margine columellari a basi dilatato, subfornicatum reflexo.*

Long. 23, diam.  $11\frac{1}{3}$  mill.

*Hab.* Bolivia.

23. *BULIMUS Clouéi*, Pfr. *B. testa perforata, ovato-turrita, solidula, striata et interdum submalleata, alba, strigis, maculis et punctis corneo-fasciis irregulariter notata; spira elongato-conica, acutiuscula; anfr. 7 modice convexis, ultimo  $\frac{3}{7}$  longitudinis vix æquante, subangulato, circa perforationem non perviam corneo-areolato; columella breviter recedente; apertura obliqua, sinuato-ovali, intus fuscata; perist. breviter expanso, margine columellari superne dilatato, reflexo, tum angulo obtuso ad basin descendente.*

Long. 22, diam. 10 mill.

*Hab.* Brazil (*Mr. Cloué*).

24. *BULIMUS puncticulatus*, Pfr. *B. testa profunde et compressa umbilicata, ovato-conica, tenuiuscula, sublævigata, nitida, albida, punctis pellucidis raris conspersa; spira elongato-conica, acutiuscula; anfr. 7 planiusculus, summis lutescentibus, ultimo spira brevior, antice ascendente, basi levissime compresso; columella subrecedente, leviter arcuata; apertura subverticali, oblongo-ovali; perist. simplice, margine dextro breviter expanso, columellari perdilatato, subflexuoso, patente.*

Long. 29, diam.  $12\frac{1}{2}$  mill.

*Hab.* Bolivia.

25. *PARTULA ALABASTRINA*, Pfr. *P. testa compressa umbilicata, oblongo-conica, tenui, levissime striatula, vix nitidula, lutescenti-alabastrina; spira conica, obtusula; anfr.  $5\frac{1}{2}$  convexis, ultimo*

*spiram vix superante, basi attenuato, subcompresso; apertura parum obliqua, oblique truncato-oblonga; columella substrictè recedente; perist. albo, marginibus callo tenuissimo junctis, dextro late expanso, columellari latissimo, patente.*

Long. 23, diam. 11 mill.

*Hab.* Salomon's Islands.

26. *CYCLOSTOMA (CYCLOTUS) LINDSTEDTI*, Pfr. *C. testa umbilicata, depressa, subdiscoidea, distincte striata, strigis fulgurantibus nigro-fuscis et luteis, superne latis, subtus linearibus picta; spira vix elevata; anfr. 4 convexis, celeriter accrescentibus, ultimo terete, vix descendente; umbilico lato.  $\frac{1}{3}$  diametri superante; apertura obliqua, subcirculari; perist. breviter adnato, duplicato; interno expansiusculo, externo albo, undique subæqualiter patente.— Operc. Cycloti.*

Diam. maj. 11, min. 9, alt. 4 mill.

*Hab.* Mount Ophir, Malacca (Rev. F. W. Lindstedt).

27. *CATAULUS HÆMASTOMUS*, Pfr. *C. testa breviter et profunde rimata, ovali-pyramidali, tenuiuscula, conferte striatula, parum nitente, diaphana, citrina; spira convexiusculo-turrita, apice subacuta; sutura submarginata; anfr. 8 convexis, ultimo vix attenuato, basi axin excedente; carina umbilicali valida, compressa, antrorsum vix dilatata; periomphalo lato, costulato-striato; apertura subcirculari; perist. fusco-sanguineo, simplice, ad anfractum contiguum angustato, lateribus rectangule late patente et revoluta, basi subproducta, canali mediocri perforato.*

Long. 27-28, diam. 11-12 mill.

*Hab.* Ceylon (Mr. Thwaites).

28. *HELICINA (ALCADIA) RHAMPHOSTYLA*, Pfr. *H. testa conoideo-globosa, solida, sublævigata, albida vel lutescente; spira breviter conoidea, obtusula; anfr.  $4\frac{1}{2}$ , superis vix convexiusculis, ultimo magno, rotundato; columella lata, superne in calum crassum, semicircularem dilatata, basi dextrorsum curvata; apertura obliqua, subsemicirculari; perist. expanso, tenui, intus calloso, margine dextro subrependo, basali sinu profundo ab extremitate rostriformi columellæ disjuncto, præterea plica pone columellam intrante munito.— Operc. ?*

Diam. maj.  $15\frac{1}{2}$ , min. 13, alt. 12 mill.

*Hab.* — ?

29. *HELICINA NORFOLKENSIS*, Pfr. *H. testa depresso-turbinata, solidula, leviter striata, albida; spira conoidea, versus apicem minute papillarem lutescente; anfr. 5 vix convexiusculis, ultimo antice rugoso, periphæria subangulato, basi planiusculo, callo granuloso nitido circumscripto et epidermide fulva decidua obducto; columella brevi, arcuata; apertura fere diagonali, subtriangulari-lunari; perist. simplice, recto, margine basali subincrassato.— Operc. testaceum, pallidum.*

Diam. maj. 14, min. 12, alt. 8 mill.

*Hab.* Norfolk Islands.

30. *HELICINA PICTELLA*, Pfr. *H. testa conoideo-depressa, tenui, sub lente tenuiter et subconferte lirata, parum nitida, diaphana, pallide cornea, ad suturam rubro-maculata; spira breviter conoidea; anfr. 4 convexiusculis, ultimo subangulato, basi callo tenui subcircumscripto obducto; columella brevissima, simplice, tenui; apertura parum obliqua, semiovali; perist. simplice, recto, margine basali angulum rectum cum columella formante.—Operc.?*  
 Diam. maj. 4, min.  $3\frac{1}{3}$ , alt. 2 mill.  
*Hab.* Norfolk Islands.
31. *HELICINA DRAYTONENSIS*, Pfr. *H. testa conoidea, solidula, ruguloso-striata striisque spiralibus nonnullis notata, parum nitida, carnea; spira conoidea, apice mucronulata, lutea; anfr.  $4\frac{1}{2}$  planiusculis, ultimo subcarinato, basi convexiore, callo tenui, subdif-fuso obducto; apertura diagonali, triangulari-semiovali; perist. albo, breviter expanso, margine basali leviter arcuato, angulatum cum columella brevi, simplice juncto.—Operc.?*  
 Diam. maj.  $5\frac{1}{2}$ , min.  $4\frac{1}{2}$ , alt.  $3\frac{1}{2}$  mill.  
*Hab.* Drayton Range, North Australia.
32. *HELICINA HEATEI*, Pfr. *H. testa subdepressa, tenuiuscula, striatula et subgranulata, parum nitida, fasciis latis saturate purpureis et albis pictu; spira brevissime conoidea, mucronulata; anfr. 5 vix convexiusculis, ultimo lato, periphèria subcarinato, basi circa callum fulvo-aurantiacum, circumscriptum albo; apertura perobliqua, triangulari-semiovali; columella brevi, perarcuata; perist. reflexo, late aurantiaco, margine basali levissime arcuato, immediate in callum basalem continuato.—Operc.?*  
 Diam. maj. 14, min.  $11\frac{1}{3}$ , alt.  $7\frac{1}{2}$  mill.  
 β. *Lutea, spira et fascia unica anfr. ultimi supera purpureis, callo basali et peristomate igneis.*  
*Hab.* Island of Granada, West Indies (named after R. W. Heate, Esq., Lieut.-Governor of the Island).
33. *HELICINA RUFA*, Pfr. *H. testa subconoideo-depressa, solidula, subrugoso-striata et punctulata, nitida, rufa; spira subconoideo-convexa, vertice subtili; anfr.  $4\frac{1}{2}$ , superis planiusculis, ultimo lato, depresso, periphèria subrotundato; apertura diagonali, late semiovali; columella verticaliter ab anfr. penultimo descendente, leviter curvata, antice in tuberculum desinente, callum basalem emittente subgranulatum, circumscriptum; perist. breviter expanso, albo-limbato.—Operc. concolor.*  
 Diam. maj. 13, min. 11, alt.  $6\frac{2}{3}$  mill.  
 β. *Pallide straminea, perist. intus pallide aurantiaco.*  
 γ. *Minor, rufa.*  
 Diam. maj. 10, min.  $8\frac{2}{3}$ , alt.  $5\frac{1}{2}$  mill.  
*Hab.* Haiti (Mr. Sallé).





J. Wolf, del.

PARADOXURUS STRICTUS, *Trin.*

M. J. Heubart Imp.







of the Tiger's head

THE TIGER'S HEAD AND NECK

PLATE 10









ARCTONIX. ISONIX. HO 498.



6. DESCRIPTIONS OF TWO NEW SPECIES OF MELAMPUS, FROM  
MR. CUMING'S COLLECTION. BY DR. L. PFEIFFER.

1. MELAMPUS OBLONGUS, Pfr. *M. testa subrimata, oblonga, solida, lavigata, fulvido-carnea, albido obsolete fasciata et strigata, strigisque variciformibus irregularibus fuscis notata; spira convexo-conoidea, apice mucronulata, plerumque fusca; sutura lineari, lacera; anfr. 8-9 vix convexiusculis, ultimo  $\frac{3}{5}$  longitudinis formante, prope suturam subangustato, basi saccato; apertura verticali, angusta, callo profundo nodiformi parietali et plica columellari obliqua, compressa coarctata; perist. fusco-limbato, margine dextro acuto, intus callo albo, subplicifero munito, columellari incrassato, adnato.*

Long.  $11\frac{1}{2}$ , diam. 6 mill.

$\beta$ . *Paulo minor, gracilior, castaneus, albo-trifasciatus.*

*Hab.* Island of Bermuda.

Habitu similis *M. cingulato*, sed evidenter affiniore *M. angiosromo*, Desh., a quo differt statura, numero anfractuum et callo marginis dextri non denticulato.

2. MELAMPUS (OPHICARDELUS) STUTCHBURYI, Pfr. *M. testa subumbilicata, fusiformi-ovata, solidula, striatula, superne liris obtuse elevatis circumdata, opaca, nigro-fusca, albo trifasciata; spira convexo-conica, apice acuta, interdum suberosa; sutura lineari, deorsum sublacera; anfr. 7 planis, ultimo fere  $\frac{2}{3}$  longitudinis formante, infra medium obsolete spiraliter striato, basi parum attenuato; apertura subverticali, semiovali; plica parietali 1 compressa, alba, intrante, extus in carinam subacutam, periomphalum infundibuliformem cingentem producta; plica columellari compressa, oblique vix ascendente; perist. acuto, margine dextro inermi, superne repando, columellari fornicatim reflexo, libero, umbilicum simulante.*

Long. 16, diam. 8 mill.

Port Curtis, Australia (*Mr. Stutchbury*).

7. CATALOGUE OF A COLLECTION OF MAMMALIA FROM NEPAL,  
SIKIM, AND TIBET, PRESENTED TO THE HON. EAST INDIA  
COMPANY BY B. H. HODGSON, ESQ., IN 1853\*. BY THOMAS  
HORSFIELD, M.D., F.R.S., ETC.

(Mammalia, Pl. XLVII.-L.)

1. SEMNOPITHECUS SCHISTACEUS, Hodgson, J. A. S. Beng. ix.  
p. 1212; Horsf. Catal. Mamm. Mus. E. I. C. p. 6.  
*Presbytes Entellus*, Gray, Catal. Hodgs. Coll. p. 1.  
*Langur*, Hodgson.  
*Hab.* Nepal; Hills.

\* Those marked with an asterisk were discovered since the publication of the Catalogue of Mammalia presented to the British Museum by B. H. Hodgson, Esq. in 1846.

2. *MACACUS RHEBUS*, Desm., Gray, Catal. Hodgs. Coll. p. 2.  
*Macacus (Pitheca) oinops*, Hodgson, J. A. S. Beng. ix. p. 1211  
*Hab.* Nepal; Hills.
- \*3. *MEGADERMA SCHISTACEA*, Hodgson, J. A. S. Beng. xvi.  
 p. 889, with a figure (1847); Horsfield, Ann. Nat. Hist. n. s. xvi.  
 p. 101 (1855).  
*Megaderma Lyra*, Geoffr. apud Kelaart, Prodr. Faunæ Zeylanicæ,  
 Mammalia, p. 11.  
*Hab.* Sikim Tarai.
- \*4. *RHINOLOPHUS PERNIGER*, Hodgson, J. A. S. Beng. xii.  
 p. 414 (1843), xvi. p. 896; Blyth, J. A. S. Beng. xiii. p. 484;  
 Horsfield, Ann. Nat. Hist. n. s. xvi. p. 102 (1855).  
*Hab.* Central regions of the Sub-Himalaya.
5. *RHINOLOPHUS TRAGATUS*, Hodgs. J. A. S. Beng. iv. p. 699;  
 Gray, Catal. Mamm. Brit. Mus. p. 22; Catal. Hodgson's Coll. p. 2;  
 Blyth, J. A. S. Beng. xiii. p. 484; Horsfield, Ann. Nat. Hist.  
 n. s. xvi. p. 102 (1855).  
*Hab.* Central hilly regions, Nepal.
6. *HIPPOSIDEROS ARMIGER*, Hodgs. J. A. S. Beng. iv. p. 699;  
 Gray, Catal. Mamm. Brit. Mus. p. 24; Catal. Hodgs. Coll. p. 3;  
 Blyth, J. A. S. Beng. xiii. p. 488.  
*Hab.* Nepal; Central hilly regions.
- \*7. *VESPERTILIO SILIGORENSIS*, Hodgson, Horsfield, Ann. Nat.  
 Hist. n. s. xvi. p. 102 (1855).  
*Hab.* Nepal; Central Hills.
- \*8. *VESPERTILIO DARJELINGENSIS*, Hodgson, Horsfield, Ann.  
 Nat. Hist. n. s. xvi. p. 102 (1855).  
*Hab.* Nepal; Central Hills.  
 "Differs only from the English *V. mystacinus* in having the tips  
 of the fur of the back brighter."—R. H. Tomes, Ann. N. H. 1856,  
 p. 27.
- \*9. *SCOTOPHILUS COROMANDELICUS*, F. Cuvier, sp.  
*Vespertilio coromandelicus*, Lesch. & Cuv. Nouv. Ann. de la Mus.;  
 Schinz, Syst. Mamm. p. 171; Horsfield, Ann. Nat. Hist. n. s. xvi.  
 p. 103 (1855).  
*Hab.* Nepal.
- \*10. *MURINA SUILLUS*, Temm. sp.  
*Vespertilio suillus*, Temm. Monogr. ii. p. 224. t. 56. f. 4, 5, 6.  
*Murina suillus*, Gray, Ann. Nat. Hist. 1842, p. 259.  
*Hab.* Nepal.

\*11. *BARBASTELLUS DAUBENTONII*, Mém. Acad. Par. 1759, ii. p. 8; Bell, Brit. Quad.

*Barbastellus communis*, Gray, Mag. Zool. & Bot. ii. p. 13.

*Hab.* Nepal.

\*12. *PLECOTUS HOMOCHROUS*, Hodgson, J. A. S. Beng. xvi. p. 894; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 103 (1855).

*Hab.* Central regions of the Sub-Himalaya.

\*13. *PLECOTUS DARJELINGENSIS*, Hodgson, Horsfield, Ann. Nat. Hist. n. s. xvi. p. 103 (1855).

*Hab.* Nepal; Central Hills.

\*14. *LASIURUS PEARSONI*, Horsfield, Catal. Mamm. East India Comp. Museum, p. 36 (1851); Ann. Nat. Hist. n. s. xvi. p. 103 (1855); Blyth, J. A. S. Beng. xx. p. 524.

*Hab.* Darjeling.

\*15. *NYCTICEJUS NIVICOLUS*, Hodgson; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 104 (1855).

*Hab.* Nepal.

16. *FELIS TIGRIS*, Linn.; Horsfield, Catal. Mamm. Mus. E. I. C. p. 43.

*Hab.* Tarai of Nepal.

17. *FELIS UNCIA*, Erxleb. Syst. Mamm. p. 508.

*Leopardus Uncia*, Gray, Catal. Mamm. Br. Mus. p. 41.

*Uncia Irbis*, Ehrenb. sp.; Gray, Ann. Nat. Hist. xiv. p. 394 (1854).

*Felis Uncioides*, Hodgson, MSS. List of Mamm. presented to E. I. C. Museum (1852); Horsfield, Ann. Nat. Hist. n. s. xvi. p. 105 (1855).

*Fker* of Tibetans, Hodgson.

*Hab.* Tibet.

18. *FELIS MACROSCELOIDES*, Hodgson, Calc. Journ. N. H. iv. p. 286; Ill. P. Z. S. 1853, Mamm. t. 38; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 105 (1855).

*Felis macroscelis*, Hodgson, J. A. S. Beng. xi. p. 275.

*Felis*, n. sp., Tickell, J. A. S. Beng. xii., with a figure.

*Lamchitia* of Tibetans, Hodgson.

*Hab.* Bengal; Tibet.

19. *FELIS MURMENSIS*, Hodgson, P. Z. S. 1832, p. 10.

Varietas *nigra*, Horsfield, Ann. Nat. Hist. n. s. xvi. p. 105 (1855).

*Murmi Cat*, Hodgson.

*Hab.* Hilly regions.

\*20. FELIS CHARLTONI, Gray, Brit. Mus.

*Uncia Charltoni*, Gray, Ann. Nat. Hist. xiv. p. 394 (1854).

*Felis Duvancelli*, Hodgson, MSS. 1852.

*Hab.* Hilly regions.

21. FELIS PARDOCHROUS, Hodgson.

*Felis pardochrous*, Hodgs. Calcutta Journ. N. H. iv. p. 286.

*Felis (Leopardus) pardochrous*, Horsfield, Catal. Mamm. Mus. E. I. C. p. 47.

*Hab.* Hilly regions.

22. FELIS (LYNX) CHAUS, Gldenst. ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 50.

*Chaus lybicus*, Gray, Catal. Mamm. Brit. Mus. p. 45 ; Catal. Hodgs. Coll. p. 7.

*Bowbhow*, Nepalese, Hodgson.

*Hab.* Hills and Tarai of Nepal.

23. PRIONODON PARDICOLOR, Hodgs. Calcutta Journ. N. H. ii. p. 57 ; J. A. S. Beng. x. p. 909 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 52.

*Linsang pardicolor*, Gray.

*Hab.* Hills of Nepal.

24. VIVERRA ZIBETHA, Linn. ; Gray & Hardw. Ill. Ind. Zool. 11. t. 5 ; Catal. Mamm. Brit. Mus. p. 52 ; Hodgs. Catal. p. 7 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 54.

*Hab.* Nepal ; Hills and Tarai.

25. VIVERRICULA INDICA, Geoffr. sp. ; Hodgson, J. A. S. Beng. x. p. 909 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 58.

*Viverricula Malaccensis*, Gray, Catal. Mamm. Brit. Mus. p. 48 ; Hodgs. Catal. p. 8.

*Sayer*, Hodgson.

*Hab.* Nepal ; Tarai.

\*26. PARADOXURUS STRICTUS, Hodgson (Pl. XLVII.) ; Horsfield, Ann. Nat. Hist. n. s. p. 105 (1855).

*Hab.* Nepal ; Plains.

\*27. PARADOXURUS QUADRISCIPTUS, Hodgson (Pl. XLVIII.) ; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 106 (1855).

*Hab.* Nepal ; Hills.

28. PARADOXURUS GRAYI, Bennett, P. Z. S. 1835, p. 118.

*Paguma Grayi*, Gray, Catal. Mamm. Brit. Mus. p. 54 ; Catal. Hodgs. Coll. p. 9 ; Horsf. Catal. Mamm. Mus. E. I. C. p. 66.

*Paradoxurus nipalensis*, Hodgson, As. Res. xix. p. 76.

*Hab.* Nepal ; Hills.

29. *HYÆNA STRIATA*, Zimm.

*Hyæna virgata*, Hodgson, MSS. 1852.

*Hyæna striata*, Horsfield, Ann. Nat. Hist. n. s. xvi. p. 107.

*Lakerbagha*, Nepal, Hodgson.

*Hab.* Tarai of Nepal.

30. *CUON PRIMÆVUS*, Hodgson, Calcutta Journ. Nat. Hist. ii. pp. 205, 412; Gray, Catal. Mamm. Brit. Mus. p. 73; Catal. Hodgs. Coll. p. 10; Horsfield, Catal. Mamm. Mus. E. I. C. p. 73.

*Hab.* Hills and Plains.

31. *CANIS AUREUS*, Linn. (Catal. Hodgson's Coll. p. 11; Horsfield, Catal. Mamm. Mus. E. I. C. p. 80).

*Sacalius indicus*, Hodgs. J. A. S. Beng. x. p. 918.

*Siyar* of the Nepalese, Hodgson.

*Hab.* Nepal; Plains.

32. *VULPES BENGALENSIS*, Shaw, sp.; Gray, Catal. Mamm. Brit. Mus. p. 61; Catal. Hodgs. Coll. p. 11; Horsfield, Catal. Mamm. Mus. E. I. C. p. 84.

*Vulpes indicus*, Hodgson, J. A. S. Beng. x. p. 918.

*Lomer* of the Nepalese, Hodgson.

*Hab.* Nepal; Tarai.

33. *VULPES MONTANUS*, Pearson, Beng. Sport. Mag. iv. p. 126 (1836); Gray, Catal. Hodgs. Coll. p. 12; Horsfield, Catal. Mamm. Mus. E. I. C. p. 87.

*Wamu* of the Nepalese, Hodgson.

*Hab.* Tibet.

34. *VULPES FERRILATUS*, Hodgson, J. A. S. Beng. xi. p. 278, fig. (1842); Gray, Catal. Hodgs. Coll. p. 12.

*Iger* of Tibetans, Hodgson.

*Hab.* Tibet.

\*35. *LUPUS LANIGER*, Hodgson; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 107 (1855).

*Changu* of Tibetans, Hodgson.

*Hab.* Tibet.

36. *HERPESTES NYULA*, Hodgs. J. A. S. Beng. v. p. 236; Gray, Catal. Hodgs. Coll. p. 8; Horsfield, Catal. Mamm. Mus. E. I. C. p. 92.

*Hab.* Plains of Nepal.

37. *URVA CANCRIVORA*, Hodgson, J. A. S. Beng. vi. p. 561; Gray, Catal. Hodgs. Coll. p. 8; Horsfield, Catal. Mamm. Mus. E. I. C. p. 93.

*Hab.* Tibet.

38. *MARTES FLAVIGULA*, Boddaert, sp.; Gray, Catal. Hodgs. Coll. p. 12; Horsfield, Catal. Mamm. Mus. E. I. C. p. 98.  
*Hab.* Nepal; Hills.

39. *MUSTELA CANIGULA*, Hodgson, J. A. S. Beng. xi. p. 279 (1842); Calcutta Journ. N. H. iv. p. 287; Gray, Catal. Hodgs. Coll. p. 13.  
*Hab.* Nepal; Hills.

\*40. *MUSTELA STRIGIDORSA*, Hodgson (Pl. XLIX.) ; Gray, P. Z. S. 1853, p. 191; Horsfield, Ann. N. H. n. s. xvi. p. 107 (1855).  
*Hab.* Sikim.

41. *MUSTELA (PUTORIUS) KATHIAH*, Hodgs. J. A. S. Beng. iv. p. 702; Horsfield, Catal. Mamm. Mus. E. I. C. p. 102.  
*Mustela Kathiah*, v. *auriventer*, Hodgs. J. A. S. Beng. x. p. 909; Gray, Catal. Hodgs. Coll. p. 13.  
*Kathia Nyul*, Nepalese, Hodgson.  
*Hab.* Kachars.

\*42. *PUTORIUS TIBETANUS*, Hodgson, J. A. S. Beng. xviii. pt. 1. p. 446 (1849); Horsfield, Catal. Mamm. Mus. E. I. C. p. 105.  
*Tibetan Stoat*, Hodgson.  
*Hab.* Tibet.

43. *HELICHTIS NIPALENSIS*, Hodgson, J. A. S. Beng. v. p. 237; Gray, Catal. Hodgs. Coll. p. 14; Horsfield, Catal. Mamm. Mus. E. I. C. p. 108; Gray, P. Z. S. 1853, p. 191.  
*Oker* of the Nepalese, Hodgson.  
*Hab.* Nepal; Tibet.

\*44. *ARCTONYX ISONYX*, Hodgson, MSS. (Pl. L.)  
 ? *Arctonyx collaris*, F. Cuv.  
*Hab.* Nepal; Tarai.

This species was discovered by Mr. Hodgson seven years back in the Tarai of Nepal, and is considered by him to be distinct from the *A. collaris*, but, upon comparison with specimens of *A. collaris* at the British Museum and the India House, its value as a distinct species requires more specimens for comparison.

\*45. *MELES LEUCURUS*, Hodgson, sp.; Gray, Ann. N. H. xii. n. s. p. 221; P. Z. S. 1853, p. 191; Horsfield, Ann. Nat. Hist. n. s. xvi. p. 108 (1855).  
*Taxidea leucurus*, Hodgs. J. A. S. Beng. xvi. p. 763 (1847), with a figure.  
*Pseudomeles leucurus*, Hodgson, MSS. 1852.  
*Tumpha* of Tibetans, Hodgson.  
*Hab.* Plains of Tibet.



46. *LUTRA CHINENSIS* ?, Gray, Ann. N. H. 1836 ; Catal. Mamm. Br. Mus. p. 71 ; Catal. Hodgs. Coll. p. 14 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 116 ; Ann. N. H. n. s. xvi. p. 109 (1855).

*Lutra Tarajensis*, Hodgson, J. A. S. Beng. viii. p. 319 (1839) ; Blyth, J. A. S. Beng. xi. p. 99.

*Udh* of Nepalese, Hodgson.

*Hab.* Nepal ; Hills and Tarai.

\*47. *AONYX SIKIMENSIS*, Hodgson ; Horsfield, Ann. N. H. n. s. xvi. p. 109 (1855).

*Hab.* Nepal ; Hills and Tarai.

*Aonyx sikimensis* :—Snout to vent 24 inches ; tail 13 ; head  $4\frac{1}{2}$  ; palma  $2\frac{2}{3}$  ; planta  $3\frac{1}{2}$ . Colour : a medial earthy brown, paler below, especially on head and neck.—Hodgson, MSS.

48. *HELARCTOS TIBETANUS*, Cuvier ; Gray, Catal. Mamm. Brit. Mus. p. 73 ; Catal. Hodgs. Coll. p. 15 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 124.

*Bhalu* of the Nepalese, Hodgson.

*Hab.* Nepal ; hilly regions.

49. *AILURUS FULGENS*, F. Cuvier ; Hardwicke, Trans. Linn. Soc. xv. p. 161 ; Gray, Catal. Mamm. Brit. Mus. p. 75 ; Catal. Hodgs. Coll. p. 15 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 126.

*Ailurus ochraceus*, Hodgson, J. A. S. Beng. xvi. p. 1118.

*Hab.* Nepal.

50. *TALPA MICRURA*, Hodgson, J. A. S. Beng. x. p. 910 ; Gray, Catal. Mamm. Br. Mus. p. 75 ; Catal. Hodgs. Coll. p. 16 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 129.

? *Talpa cryptura*, Blyth.

*Purium* of the Nepalese, Hodgson.

*Hab.* Nepal ; Hills.

\*51. *SOREX MURINUS*, Linn. ; Gray, Catal. Hodgs. Coll. p. 16 ; Horsfield, Catal. Mamm. Mus. E. I. C. p. 134 ; Ann. N. H. n. s. xvi. p. 110 ; Blyth, J. A. S. Beng. 1855, p. 28 ; Tomes, Ann. N. H. n. s. xvii. p. 15 (1856).

*Chuchunder*, Hodgson.

*Hab.* Nepal ; Plains.

\*52. *SOREX SATURATION*, Hodgson ; Horsfield, Ann. N. H. n. s. xvi. p. 110 (1855) ; Tomes, Ann. N. H. n. s. xvii. p. 22.

*Hab.* Nepal ; Hills.

\*53. *SOREX LEUCOPS*, Hodgson ; Horsfield, Ann. N. H. n. s. xvi. p. 111 (1855) ; Tomes, Ann. N. H. n. s. xvii. p. 22.

*White-lipped Shrew*, Hodgson.

*Hab.* Nepal ; Hills.

54. *SOREX PYGMEUS*, Hodgson, J. A. S. Beng. x. p. 910; Ann. N. H. xv. p. 269; Gray, Catal. Hodgs. Coll. p. 16; Horsfield, Ann. N. H. n. s. xvi. p. 111; Blyth, J. A. S. Beng. 1855, p. 32; Tomes, Ann. N. H. n. s. xvii. p. 20.

*Hab.* Nepal; Central Hills.

55. *SOREX NEMORIVAGUS*, Hodgson, Calc. Journ. N. H. iv. p. 288; Ann. N. H. xv. p. 269; Gray, Catal. Hodgs. Coll. p. 16; Horsfield, Ann. N. H. n. s. xvi. p. 111; Blyth, J. A. S. Beng. 1855, p. 31; Tomes, Ann. N. H. n. s. xvii. p. 18.

*Hab.* Nepal; Central Hills.

\*56. *SOREX SOCCATUS*, Hodgson, Ann. N. H. xv. p. 270; ? Blyth, J. A. S. Beng. 1855, p. 30; Tomes, Ann. N. H. n. s. xvii. p. 17.

*Hab.* Nepal; Central Hills.

\*57. *SORICULUS NIGRESCENS*, Gray, sp.

*Corsira nigrescens*, Gray, Ann. N. H. x. p. 261 (1842).

*Soriculus nigrescens*, Blyth, J. A. S. Beng. 1855, p. 36.

*Sorex Sikimensis*, Hodgson, Ann. N. H. iii. n. s. p. 203; Horsfield, Catal. Mamm. Mus. E. I. C. p. 136; Ann. N. H. n. s. xvi. p. 111.

*Sorex soccatus*, Hodgs. Calc. Journ. N. H. iv. p. 288 (not described).

*Sorex aterrimus*, Blyth, J. A. S. Beng. 1843, p. 128?

*Chika* of the Nepalese, Hodgson.

*Hab.* Nepal.

\*58. *CORSIRA (?) CAUDATA*, Hodgson, sp.

*Sorex caudatus*, Hodgson, Ann. N. H. n. s. iii. p. 203; Horsfield, Catal. Mamm. Mus. E. I. C. p. 135; Ann. N. H. n. s. xvi. p. 111.

*Corsira (?) caudata*, Blyth, J. A. S. Beng. 1855, p. 37; Tomes, Ann. N. H. n. s. xvii. p. 27.

*Hab.* Sikim and Darjeeling.

“After a very careful comparison of two specimens of *C. caudata*, in the Museum at the India House, with a specimen of the *C. alpina* of Europe, I concluded that they were very closely affined, if not perfectly identical. The naked compressed tip of the tail in the last-mentioned species, as remarked by Mr. Blyth, also occurs in one of the examples of *C. caudata*; indeed, were this specimen to be placed along with the European species, it would be almost impossible to distinguish them.”—*R. F. Tomes.*

59. *MUS NIPALENSIS*, Hodgson, J. A. S. Beng. x. p. 915; Gray, Catal. Hodgs. Coll. p. 19.

*Hab.* Nepal; Hills.

\*60. *MUS TARAYENSIS*, Hodgson; Horsfield, Ann. N. H. n. s. xvi. p. 112 (1855).

*Hab.* Nepal; Tarai; Plains.